

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A conveyor for transporting work pieces in a press, ~~in particular a press line or multiple-die press~~, from a first station (10) to a second station (20) adjacent to the first station (10), comprising

a) ~~at least one lateral beam (300, 300b, 400)~~ arranged on a side of the press, essentially extending parallel to a transport direction of the conveyor ~~(52, 52b)~~;

b) ~~at least one bar (500) having grippers (502) for gripping the work piece to be transported, the at least one bar being whereby the bar (500) is attached to the lateral beam such that the bar (300, 300b, 400) in such a way that it is movable along a longitudinal extension of the beam (300, 300b, 400)~~; and

e) ~~for each lateral beam (300, 300b, 400) an assembly (100, 200) for supporting each of the at least one the lateral beam (300, 300b, 400)~~;

~~characterized in that wherein~~

d) ~~the assembly (100) comprises a pivoting mechanism (106, 107, 108, 109, 301, 302) for pivoting the lateral beam about (300) around a horizontal pivotal axis perpendicular to the transport direction, the pivoting mechanism including two spindles, the two spindles being independently operable to pivot and vertically displace the lateral beam, direction; and in that~~

e) ~~the grippers (502) are rotatably movable for at least compensating a change of orientation of the work piece due to the pivoting of the lateral beam (300, 300b, 400), and~~

~~the lateral beam includes two couplings arranged along a longitudinal extension of the at least one lateral beam, whereby each of the couplings cooperates with one of the two spindles.~~

2. (Currently Amended) The conveyor according to claim 1, ~~wherein characterized in that~~ the pivoting mechanism (106, 107, 108, 109, 301, 302) is formed such that the pivotal axis crosses a

vertical plane comprising the lateral beam ~~(300)~~, either above, below or through the lateral beam (300), in particular close to a middle portion of the lateral beam ~~(300)~~.

3. (Currently Amended) The conveyor according to claim 1, wherein the at least one lateral beam characterized in that it comprises two lateral beams ~~(300, 400)~~ arranged across the press and in that the bar is a cross-bar ~~(500)~~ extending across the press, attached to the two lateral beams ~~(300, 400)~~.

4. (Currently Amended) The conveyor according to claim 3, wherein characterized in that at least one of the assemblies ~~(100, 200)~~ for supporting one of the two lateral beams ~~(300, 400)~~ is supported such that is relocatable in a direction transverse to the transport direction, in order to adjust a distance between the two lateral beams ~~(300, 400)~~.

5. (Currently Amended) The conveyor according to claim 1, wherein characterized in that the assembly ~~(100)~~ further comprises a lift mechanism ~~(106, 107, 108, 109, 301, 302)~~ for displacing the lateral beam ~~(300)~~ in a vertical direction.

6. (Canceled)

7. (Canceled)

8. (Currently Amended) The conveyor according to claim 1, wherein at least one characterized in that the lateral beam ~~(300; 300b)~~ comprises a telescopic drive mechanism for moving the bar along a longitudinal direction of the at least one lateral beam ~~(320; 320b; 320e)~~ for the sliding movement of the bar ~~(500)~~.

9. (Currently Amended) The conveyor according to claim 8, wherein ~~characterized in that~~ the telescopic drive mechanism includes ~~(320; 320b; 320e) is constituted by~~ a support beam ~~(310; 310b; 310e)~~ attached to the pivoting mechanism ~~(106, 107, 108, 109, 301, 302)~~, a first carriage ~~(321; 321b; 321e)~~ slidably mounted to the support beam, ~~(310; 310b; 310e)~~ and a second carriage ~~(330; 330b)~~ slidably mounted to the first carriage ~~(321; 321b; 321e)~~.

10. (Currently Amended) The conveyor according to claim 9, wherein ~~characterized in that~~ an intermediate linear guideway ~~(340b; 340.1b, 340.2b; 340.1e, 340.2e)~~ is arranged between the support beam ~~(310b; 310e)~~ and the first carriage ~~(321b; 321e)~~, whereby the guideway ~~(340b; 340.1b, 340.2b; 340.1e, 340.2e)~~ is slidable with respect to the support beam ~~(310b; 310e)~~ as well as to the first carriage ~~(321b; 321e)~~.

11. (Currently Amended) The conveyor according to claim 1, characterized in that all the drives for (106, 107, 304) moving the bar (500) along the beam (300) as well as for pivoting the beam (300) are stationary in respect of the motion of the bar (500) along the longitudinal extension of the beam (300).

12. (Currently Amended) A conveyor system for transporting work pieces in a press line or multiple-die press, comprising; ~~comprising~~
_____ a plurality of conveyors ~~(51, 52, 53, 54, 55)~~ according to claim 1, arranged consecutively.

13. (Currently Amended) The conveyor system according to claim 12, wherein ~~characterized in that~~ two consecutive conveyors ~~(52, 52')~~ are arranged such that the work piece is ~~(2) may~~

be handed over from a first of the conveyors (52) to a second of the conveyors (52'), whereby the work piece (2) is flipped.

14. (Currently Amended) A method for transporting work pieces in a press, ~~in particular a press line or multiple-die press~~, from a first station (10) to a second station (20) adjacent to the first station (10), employing a bar (500) attached to a lateral beam (300, 400) arranged on a side of the press, extending parallel to a transport direction, comprising the steps of:

- a) — positioning the bar (500) above the work piece (2) situated in the first station (10);
- b) — lowering the bar (500) by pivoting the lateral beam about (300, 400) around a horizontal pivotal axis perpendicular to the transport direction;
- e) — gripping the work piece (2) by grippers (502) attached to the bar (500);
- d) — lifting the bar (500) by pivoting the lateral beam (300, 400) around the pivotal axis;
- e) — transporting the work piece (2) to the second station (20) by moving the bar (500) along a longitudinal extension of the beam (300);
- f) — positioning the bar (500) in a hand-over position by pivoting the lateral beam about (300) around the pivotal axis; and
- g) — disengaging the work piece (2) from the grippers (502).

15. (Currently Amended) The method according to claim 14, wherein characterized in that moving the bar (500) along the longitudinal extension of the beam (300) and pivoting of the beam, i.e. the ~~lifting and/or lowering and transporting steps~~, at least partially take place simultaneously.

16. (Currently Amended) The method according to claim 14, further comprising: characterized by the further step of

_____ rotatably moving the grippers (502) for at least compensating a change of orientation of the work piece (2) due to the pivoting of the lateral beam (300).

17. (Currently Amended) The method according to claim 16, wherein characterized in that the second station (52') is another conveyor for further transporting the work piece and having (2), comprising second grippers, and in that the method further comprises the step of _____ rotatably moving the grippers such that the work piece (2) held by the grippers is may be directly transferred to the second grippers of the other conveyor (52'), thereby flipping the work piece (2).

18. (New) The conveyor according to claim 1, wherein the two couplings are arranged symmetrically and close to a center of the lateral beam.